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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/960,345	09/24/2001	Yukihiro Kusano	Q65935	4619

7590 01/21/2004

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EXAMINER

TORRES VELAZQUEZ, NORCA LIZ

ART UNIT	PAPER NUMBER
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1771

DATE MAILED: 01/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/960,345	KUSANO ET AL.	
	Examiner	Art Unit	
	Norca L. Torres-Velazquez	1771	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 October 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 October 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: |

DETAILED ACTION

1. Amendment to Claim 1 filed on October 16, 2003 has been entered. The Examiner noted Applicants comments with regards to the drawings filed on September 24, 2001.

Drawings

2. The drawings are objected to because there is only one figure in the application and it should be labeled - - FIGURE - -, instead of "Fig. 1". A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Response to Arguments

3. Applicant's arguments filed on October 16, 2003 have been fully considered but they are not persuasive.
 - a. Applicants amended claim 1 to recite - - formed on at least one surface - - in order to overcome that rejection of claims 1-6 under 35 U.S.C. 112, second paragraph, as being indefinite. Applicants indicate that support for the amendment is provided, for example, on page 10 of the specification, line 13.

The Examiner reviewed page 10, line 13 of the specification and do not find that it supports the limitation of - - formed on at least one surface - -, as Applicants indicated. The Specification indicates that "according to the present invention, the adhesion between a non-woven fabric and a rubber can be enhanced." It does not indicate applying a coating of metal or metallic compound reactable with sulfur to at least one surface of filaments constituting the non-woven fabric. Therefore, the claims remain rejected as being indefinite.

Upon further reviewing the Specification, it is noted that on page 5, lines 2-5, it is disclosed that "non-woven fabrics include to have a structure in which a rubber can enter between fiber filaments and to have a structure in which the filament fibers and a rubber mutually form a continuous layer over a relatively long distance and a relatively wide area." Further, on the examples of pages 10-11, of the specification both surfaces of a non-woven fabric are coated by sputtering. In light of those teachings, the Examiner suggests that using a language in the lines of: - - the coating being formed on the surface of filaments constituting the non-woven fabric - -, and - - a rubber that adheres to the coating forming a continuous layer and covering the non-woven fabric. - - would overcome the 112, second paragraph rejections.

b. With regards to the rejection of claims 1-6 under 35 U.S.C 103 (a) as being obvious over YOSHIKAWA et al. in view of JP 10-053010, Applicants argue that the YOSHIKAWA et al. reference does not teach or suggest that a non-woven fabric may be used as a substrate or strong adhesion between this particular substrate and a rubber composition may be achieved.

It is the Examiner's position that the YOSHIKAWA reference discloses that the substrate can be a variety of materials and does not preclude the use of a substrate such as the one claimed by Applicants. The secondary reference (JP 10-053010) is analogous art to the YOSHIKAWA reference and provides good motivation for using a nonwoven fabric. Therefore, the rejection over YOSHIKAWA in view of the JP 10-053010 reference is maintained.

c. With regards to the rejection of claims 1-6 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over Claims 1, 2 and 21 of copending application 10/019,250 in view of JP '010; Applicants argue that the '250 application does not teach or suggest a rubber component in the claimed rubber-reinforcing fiber.

It is noted that the '250 application is directed to a rubber-reinforcing material that is used in rubber. (Refer to [0001]). The use of a rubber component is implied by the rubber-reinforcing material.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

5. Claims 1-6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The independent claim 1 recites, "the coating is formed on at least one surface of filaments constituting the non-woven fabric..." and further that "a rubber that adheres to the coating and that covers the non-woven fabric." It is not clear if Applicants are claiming that the metal coating is limited to only one surface of the non-woven fabric or if it coats both surfaces of the non-woven fabric? It is noted that the use of the language "on at least one surface" is not specific to which surface of the non-woven. When Applicants are referring to the coating on only one surface of the non-woven, then it would not be possible to have a rubber covering the non-woven fabric when it adheres to the metal coating on only one surface.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1-6 are rejected under 35 U.S.C. 103(a) as being obvious over YOSHIKAWA et al. (US 4,872,932) in view of JP 10-053010.

YOSHIKAWA et al. discloses a method for preparing rubbery composite materials and teaches that a metal such as zinc, copper, cobalt, and an alloy thereof can be integrated into a rubber composition to form a rubbery composite material exhibiting a firm bond between the components by press bonding the metal at a temperature which approximate to the temperature at which the rubber composition is usually heated for vulcanization; that these material can be readily deposited on a substrate as a thin film by a dry plating process such as vacuum deposition, ion plating, DC and RF magnetron sputtering, bipolar sputtering and RF sputtering processes; and that a rubber composition can firmly bond to the resulting metal thin film. (See Column 3 lines 34-45) The reference further teaches that the substrates that can be used in the practice of their invention are not particularly limited with respect to their material type, shape, and size, and that these may be properly selected depending on the intended application. (See Column 5, lines 18-41) Further, the reference teaches that the rubbery composite materials of their invention will find wide applications in steel tires, conveyor belts, and hoses, among others. (Column 4, lines 62-64)

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While the teachings of the '932 reference do not preclude the use of a non-woven fabric, the use of non-woven fabrics as reinforcements for applications such as tires is well known as it is taught by the JP 10-053010 reference below.

The JP 10-053010 reference teaches the use of unwoven fabric (non-woven fabric) in a rubber-filament complex of a fiber reinforced member layer in a pneumatic radial tire. (Abstract)

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the rubbery composite material and provide it with a non-woven fabric with the motivation of improving the rigidity and stability of the article including the composite material as disclosed by the JP 10-053010 reference.

9. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

10. Claims 1-6 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 2 and 21 of copending Application No. 10/019,250 in view of JP 10-053010. The copending Application '250 claims a rubber-reinforcing fiber comprising an organic fiber or an inorganic fiber made of a non-metallic inorganic compound, the organic fiber or the inorganic fiber being provided with a coating layer

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of 10 Å to 40 µm thick, and the coating layer containing an alloy of cobalt and at least one alloying element such as zinc, copper, titanium, silver, nickel, tungsten, tantalum and molybdenum. Further that the coating layer contains metallic cobalt and/or cobalt oxide. An on claim 21 that physical vapor deposition is used, specifically sputtering.

While the copending Application teaches nonwoven fabric as a form of the fiber aggregate to produce the rubber-reinforcing fiber, it does not claim it.

The JP 10-053010 reference teaches the use of unwoven fabric (non-woven fabric) in a rubber-filament complex of a fiber reinforced member layer in a pneumatic radial tire. (Abstract)

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the rubbery composite material and provide it with a non-woven fabric with the motivation of improving the rigidity and stability of the article including the composite material as disclosed by the JP 10-053010 reference.

This is a provisional obviousness-type double patenting rejection.

2. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

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CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

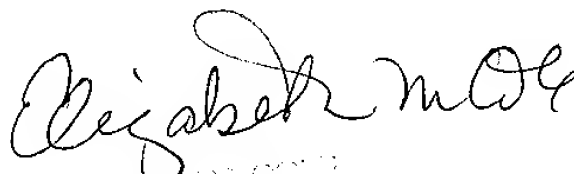
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Norca L. Torres-Velazquez whose telephone number is 571-272-1484. The examiner can normally be reached on Monday-Thursday 8:00-4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on 571-272-1478. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-0994.

Norca L. Torres-Velazquez
Examiner
Art Unit 1771

January 12, 2004


ELIZABETH M. O'LEARY
PRIMARY EXAMINER